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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Frank Bor-Her Chen

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EXAMINER

LIGHTFOOT, ELENA TSOY

ART UNIT

PAPER NUMBER

1792

NOTIFICATION DATE

DELIVERY MODE

01/20/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 09/742,625	<b>Applicant(s)</b> CHEN ET AL.	
	<b>Examiner</b> ELENA Tsoy LIGHTFOOT	<b>Art Unit</b> 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 37-39, 51, 52 and 67-76 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 37-39, 51, 52 and 67-76 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114 was filed in this application after a decision by the Board of Patent Appeals and Interferences, but before the filing of a Notice of Appeal to the Court of Appeals for the Federal Circuit or the commencement of a civil action. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on January 8, 2010 has been entered.

***Response to Amendment***

Amendment filed on January 8, 2010 has been entered. New claims 72-76 have been added. Claims 37-39, 51-52, and 67-76 are pending in the application. Claims examined on the merits are 37-39, 50-52, and 67-72.

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 37-39, 50-52, and 67-72 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 37 and 71 recite: "A process for the manufacture of **polymer coated composite substrate**, ... compressing and heating the crosslinked polymer matrix, the top coat layer, and the compressible mat to form the polymer coated composite

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substrate, wherein the polymer coated composite substrate is a wood composite construction material selected from one of hardboard, medium density fiberboard, oriented strand board, particle board, or plywood”; and claim 74 recites: “A process for the manufacture of ***polymer coated wood composite construction materials***, ... compressing and heating the crosslinked polymer matrix, the top coat layer, and the compressible mat to form the wood composite construction material, wherein the wood composite construction material is selected from one of hardboard, medium density fiberboard, oriented strand board, particle board, or plywood”, which render the claims indefinite: although claims 37, 71 and 74 describe **the same process steps**, claims 37 and 71 claim to be directed to “A process for the manufacture of *polymer coated composite substrate*” whereas claim 74 claims to be directed to “A process for the manufacture of *polymer coated wood composite construction materials*” such that it is not clear what kind of a product is produced by claimed processes. Moreover, although, claims 37 and 71 recite: “A process for the manufacture of polymer coated **composite substrate**”, the body of the claims mention nowhere the “composite substrate”. Is “mat” a “composite substrate” or not?

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The phrase “**formaldehyde-free**” primer coating composition was broadly interpreted by the Examiner according to conventional meaning as a primer coating composition having no unreacted formaldehyde. It is well settled that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

4. Claims 37-39, 50-52, and 67-76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schedlitzki (DE 2224732) in view of Cummings (US 3,529,993), further in view of Helmer et al (WO 9622338).

Schedlitzki discloses a method for finishing the surface of boards of wooden material such as chipboard, fibreboard, plywood producing comprising impregnating a *paper* carrier sheet (See page 2, paragraph 4 and page 8, line 1) with aqueous **quick**-hardening aminoplastics resins (claimed primer), drying for 1 minutes at 130<sup>0</sup>C (See translation, page 7, line 5), coating on one or both sides with a mixture of an aqueous fast-curing amino-plastics resin and a dispersion of a self-cross-linking acrylic resin (claimed thermosetting polymers), then pressing the coated paper onto the boards of wooden material to produce glossy patch-free surfaces on removal from the **mould hot** (See Abstract).

Schedlitzki teaches that attempt was made to increase the hardening rate of the **quick**-hardening primer by the excessive addition of hardeners, but it resulted in short shelf life (See page 6, paragraph 2). Schedlitzki fails to teach claimed primer that forms a chemically crosslinked polymer matrix when or as being applied, so that the aqueous resin mixture is applied to the crosslinked primer (Claim 37).

Cummings teaches that amino resins curing fast at room temperature may be used for factory applied *wood priming* (See column 2, lines 14-20) or in *traffic* paints

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where virtually no waiting period is necessary for the paint to dry before traffic can pass (See column 2, lines 36) instead of heat curing or slow curing prior art compositions including prior art wood primers (See column 1, lines 56-66).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used amino resins curing fast at room temperature in Schedlitzki instead of heat curing aminoplastics resins in order to achieve faster curing without any extra heating steps since Cummings teaches that his amino resins cure faster at room temperature than known wood primers.

Schedlitzki in view of Cummings fails to teach that a primer composition comprises 95-99 wt % of claimed polymer (Claim 37).

Helmer et al teach a fast hardening aqueous (amino resin) coating composition that is substantially identical to that of claimed invention (See Abstract) can be utilized in applications where it is desirable to form a hard, smear-resistant, non-tracking surface very quickly after deposit of the coating under ambient conditions, *in particular*, as fast hardening aqueous traffic marking paint, which forms a hard, smear-resistant surface very soon after application under ambient conditions to a surface, such as a road way, and which allows the resumption of normal traffic with minimal interruption (See column 1, lines 11-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a fast hardening aqueous coating composition of Helmer et al as amino resin in Schedlitzki in view of Cummings with the expectation of providing the desired fast cured hard, smear-resistant layer since Helmer et al teach

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that their fast hardening aqueous coating composition is suitable in applications where it is desirable to form a hard, smear-resistant, non-tracking surface very quickly after deposit of the coating under ambient conditions, *in particular*, as fast hardening aqueous traffic marking paint.

It is held that the selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). See MPEP 2144.07.

**As to claimed compressible mat**, the boards of wooden material such as chipboard, fibreboard, plywood of Schedlitzki are interpreted as claimed *compressible mat* and step of applying a paper carrier sheet *impregnated* with a primer may be interpreted as claimed step of applying a primer to the surface of the compressible mat (i.e. onto surface of the wooden board) since claim 37 does not recite negative limitation that the primer should not be carried with paper carrier sheet or that the paper carrier sheet should not be present in the primer.

**As to claimed step of compressing and heating to form polymer coated composite substrate**, the step of hot pressing the crosslinked primer, the top coat, the paper sheet (claimed *compressible mat*) onto boards of wooden material of cited prior art reads on claimed step of compressing and heating the crosslinked primer, the top coat and the compressible mat to form coated composite substrate.

**As to claim 38**, Schedlitzki teaches that double impregnated *paper* sheet (See Translation, page 2, P4) is pressed onto wood plates under pressure and heat (See

Translation, page 3, P1). It is well settled that choice of sequence of adding ingredients does not involve invention.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have positioned paper impregnated with a primer in the cited prior art onto wood plates, then applied a top coat followed by hot pressing with the expectation of providing the desired glossy patch-free surface since it is held that choice of sequence of adding ingredients does not involve invention.

As to claim 50, the limitations of dependent claim 50 are described in the specification as being not subject matter of claimed invention (See specification, page 2, lines 1-2, describing that the mat is *typically* treated with a pre-press sealer to provide release from the hot press platen and thus optimize surface smoothness and minimize buildup on the press platens (metal plates)).

As to claims 51-52, Helmer et al teach that the solids content may be 40-70 % (See column 13, lines 17-20). Also, it is held that concentration limitations are obvious absent a showing of criticality. *Akzo v. E.I. du Pont de Nemours* 1 USPQ 2d 1704 (Fed. Cir. 1987). It is also held that it is not inventive to discover the optimum or workable ranges of result-effective variables by routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). See also *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant



concentration parameters (including those of claimed invention) in the cited prior art through routine experimentation in the absence of showing of criticality.

As to claims 72, 73, 75 and 76, it is well settled that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

5. Claims 38-39, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schedlitzki '732 in view of Cummings '993, further in view of Helmer et al '338, as applied above, and further in view of van der Hoeven (US 4,789,604).

The cited prior art fails to teach that paper is glued to the surface of a compressible mat.

van der Hoeven teaches that the substrate for coating may be a wood panel with paper attached to it (See column 6, lines 25-54). (In such embodiment, the polymerizable coating is placed on the paper (col. 6, lines 30-32). Adjacent layers may be attached by glue (col. 3, line 50-col. 4, line 5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied an adhesive in the cited prior art onto a paper glued to a wood panel, then applied a top coat followed by hot pressing with the expectation of providing the desired glossy patch-free surface since it is held that choice of sequence of adding ingredients does not involve

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invention, and van der Hoeven teaches that the substrate for the coating may be a wood panel with paper attached to it.

As to claim 50, van der Hoeven teaches that a top, release coating (3) may be applied to the polymer before compressing and heating (col. 10, lines 48-57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied a top, release coating to the polymer before compressing and heating in the cited prior art with the expectation of preventing metal marking.

### ***Response to Arguments***

Applicant's arguments filed January 8, 2010 have been fully considered but they are not persuasive.

Applicants argue that the composite substrate is not a sheet of paper.

The Examiner's Answer mailed on 2/26/2009 stated two different interpretations of claimed "mat" including the current interpretation (See above).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELENA Tsoy LIGHTFOOT whose telephone number is (571)272-1429. The examiner can normally be reached on Monday-Friday, 9:00AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy Lightfoot, Ph.D.  
Primary Examiner  
Art Unit 1792

January 15, 2010

/Elena Tsoy Lightfoot/